mainly of dry leaves, lined with fine roots, moss fibres, pine needles, and horse-hair, and placed in canes over water at heights varying from four to eight feet. Of the seven eggs taken, four were immaculate, two perhaps slightly spotted, and one unmistakably spotted and blotched with lilac.

The inferences suggested by these facts are: (1) That Swainson's Warbler nests usually, if not invariably, in canes over water; (2) that it lays from one to three eggs; (3) that its eggs may be either plain, slightly speckled, or rather thickly and distinctly marked.

Another season's work on the part of Mr. Wayne will doubtless throw more light on all these points. Meanwhile ornithologists may well rest satisfied with the knowledge thus far obtained.

EARLY SPRING NOTES FROM THE MOUNTAINS OF SOUTHERN ARIZONA.

BY W. E. D. SCOTT.

THE present article, based on observations made and material collected in the pine region and neighborhood of Las Sierras de Santa Catalina, Pima County, Arizona, is in reality a continuation of an article which appeared in 'The Auk' for April, 1885 (pp. 172-174). The locality visited is the one there described. The duration of my stay was from April 19 to 24, inclusive.

The winter snow had almost melted from the ground and was only to be seen in patches in the deeper part of the woods and on the sides of hills and ravines, where the sun shone but little. It was still cold, and ice formed at night on water standing in pails, and on the edges of the mountain brooks where the current was not too swift. Except on the morning of the 21st of April, and throughout the entire day on the 24th of the month, the wind blew incessantly and most of the time with great force. On the 20th, about daylight, a cold storm of rain and hail set in, and later this changed into snow, which soon covered the ground to the depth of nearly an inch. The storm, however, broke about noon,

and the sun coming out the wintry effect was speedily dispelled. The other days were cloudless.

The collection of birds made during my stay embraces a hundred and fifty-one skins, the catalogue numbers of the same running from Nos. 2174 to 2324, inclusive; this I mention, as it will be necessary to refer to certain birds obtained.* Birds on the whole were much more abundant than during the former visit, but certain species that were met with in November, 1884, I did not detect during the present trip; and the more noticeable among these are *Carpodacus cassini*, *Hesperiphona vespertina*, and *Sphyropicus thyroideus*. Others, then comparatively common, were now apparently rare, as I only saw one Olive-headed Warbler (*Peucedramus olivaceus*). The species obtained are the following:

Turdus unalascæ auduboni. — On April 22, on the very summit of the mountains, I observed a pair of Thrushes, apparently mated, and took the female (No. 2234), which, on dissection, proved to be about to lay, the egg-yolks being some of them nearly half developed. This was the only pair of Thrushes observed.†

Sialia mexicana.—A few pairs were noticed at a high altitude in the pine region; and being already apparently mated, they doubtless breed early in May.

Polioptila cærulea.— A pair, taken on April 20, about fifteen hundred feet below the summit, where the pines almost cease, and where the evergreen and scrub oak are the principal trees. Here this species was common.

Lophophanes wollweberi. — Not uncommon in the oak belt, just reaching to the lower pine limit. It is in places abundant in the oak region, and in this range of mountains the first set of eggs is laid by the 20th of April.

Sitta carolinensis aculeata. — Rather common, but by no means so abundant as in the winter. A female (No. 2265), taken April 22, had laid a full complement of eggs and had evidently begun sitting.

* [These specimens have been kindly forwarded to me for examination by Mr Scott, with the request that I should add such remarks respecting them as seemed called for.—J. A. ALLEN.]

† [This specimen is unusually light colored even for var. *auduboni*, it being the most 'bleached out' specimen I have seen.—J. A. A.]

Sitta pygmæa. — Common, but not associated in large flocks as in the winter. They were generally paired, and I rarely saw more than two pairs together. From the dissection of the females taken, and from the fact that throughout the day I frequently saw the birds going in and out of holes in the dry pine stubs, I conclude that in some cases the nesting sites had been selected, and that eggs would have been laid, in some cases, by May 1.

Certhia familiaris mexicana. — A single pair observed, and the male taken (No. 2270), on April 23. They were creeping about on a leafless ash tree, where the pines were rather scattering, and near the point where these trees terminate, well down on the northern slope of the mountains. I heard no song.*

Catherpes mexicanus conspersus.† — One pair was taken just at the lower limit of the pine region. They had a nest in the vicinity, but my search for it was unavailing. The female had laid all the eggs of this, the first clutch, and possibly had even then young, as the skin of the belly showed that incubation had been going on for some time. Though much has been said of the wonderfully beautiful song of this species I can not but allude to it. For more than a year, two months in winter excepted, this clear, delicious series of whistling notes has been

* [Mr. Ridgway, in his 'Critical Remarks on the Tree-Creepers (*Certhia*) of Europe and North America' (Proc. U. S. Nat. Mus., V, 1882, pp. 111-116), says (p. 116) that *Certhia mexicana* differs "conspicuously from all the others in the total absence of light tips to the primary coverts." In this character Mr. Scott's specimen agrees perfectly, there being no trace of white on the primary coverts. The lower parts are also grayish, and the other features of coloration and size agree with the characters given by Mr. Ridgway as distinctive of *mexicana* (wing, 2.60; tail, 2.65), whose habitat he gives as "Guatemala and Southern Mexico." Mr. Brewster has since, however, very positively identified Arizona specimens with var. *mexicana* (Bull. N. O. C., VII, p. 81 April, 1882).

In his remarks on this species Mr. Ridgway observes that *mexicana* "is by no means smaller" than the northern races of *Certhia*, "thus affording another of the very numerous 'exceptions' to the supposed law of smaller size to the southward of resident species." He adds in a footnote that he has, "in perhaps a majority of cases [he had recently tested] been unable to verify this supposed law of latitudinal variation in size. He then gives the measurements of "the three specimens" of *mexicana* which he had "been able to examine," the sex of which, however, is not indicated. The average falls considerably below the average for *males* of the northern races *rufa* and *montana*, as given on preceding pages of the same paper. Might it not be fairly asked whether the generalization here reached has sufficient basis, in view of the small number of specimens, and these unknown as to sex? — J. A. A.]

† [A series of five specimens of this species in Mr. Scott's collection differ much from average Colorado and California specimens, in the head and neck contrasting more strongly with the back, the ground-color being darker and at the same time more profusely spotted, giving a grayer general effect. — J. A. A.]

constantly ringing in the air all about the cañon where my home is, and frequently the musician comes on a long piazza in front of my house and, not at all afraid, perches on the rail and creeps on every rafter, stopping constantly to pour out such a flood of music that, familiar as it has become to me, I am always astonished at its wonderful power and liquid sweetness. During that portion of the year when we live with doors and windows open (and this is for fully nine months), the little brown friend with silvery throat is often in the rooms of the house, hopping about and searching every "nook and cranny" for insect life, and betimes singing as merrily as when on the faces of the perpendicular rocks in the cañons, which are ever the favorite hunting grounds he delights in. The female sings quite as much as the male. Of the nest in detail I shall have more to say at another time.

I heard a single bird singing one morning at a high altitude among the pines, which was the only note made of its occurrence well within this region.

Troglodytes aedon marianæ, subsp. nov.

Much lighter colored and grayer throughout than either *T. aëdon* or the so-called var. *parkmani*, particularly on the anterior half of the upper surface, which is in strong contrast with the rest of the dorsal surface. A striking feature is the hoary appearance of the dorsal aspect of the head, neck, and anterior part of the back, caused by conspicuous gray edgings to the feathers. The same hoariness also characterizes the wing-coverts. The subterminal black bars on the feathers of the back are also unusually distinct and heavy. In other respects similar to *T. aëdon* and its varieties *parkmani* and *aztecus*. Types, No. 2284 (♂, April 23) and 2307 (♀, April 24), Coll. W. E. D. Scott. Named for my wife, Marian J. Scott.*

* [Eleven specimens of this interesting form, collected April 19-24, are very uniform in character, and are strikingly different from the usual form of House Wren found throughout the West, which, as is well known, is scarcely, or often not at all distinguishable from the Eastern bird, or *aëdon* proper. While much paler throughout than any western House Wrens I have before seen they are strikingly distinguished by the decided hoariness of the anterior half of the dorsal surface. In size and proportions careful measurements fail to show any differences from ordinary *aëdon*. The wing varies in length from 48 to 52 mm., and the tail from 42 to 49 mm. The tarsus varies from 16 to 19 mm., averaging 17 mm., the culmen from 11 to 13 mm., averaging 12 mm. The first primary varies in length from 16 to 23 mm., or from less to more than half the length of the second This shows how little reliance is to be placed upon this character, which has been taken as a basis for separation of the eastern from the western House Wrens, even by so late a writer as Mr. Sharpe (Cat. Bds. Brit. Mus. VI

Very common in the pines, and a few were noticed in the oaks just without the pine limit. They were in all cases apparently mated and the males were in full song. From the dissection of females taken I should infer that they would lay eggs early in May. Each pair had chosen, even when I noticed them, a particular locality, generally about some fallen tree, or near some tangle of dead pine boughs, where they maintained their supremacy, driving away any chance Warbler or Snowbird that dared to intrude upon their particular domain. A series of eleven birds collected are referable to this variety.

Helminthophila virginiæ. The only notes of the occurrence of this bird are based on two taken during my stay — No. 2276, ♂, April 23 and No. 2293, ♀, April 24. Both were secured near the summit of the mountain.

Helminthophila celata lutescens. Not observed until April 24, when two males and a female were taken. No others were noticed.

Peucedramus olivaceus. A single male, noted on April 22, was the only one observed.

Dendrœca nigrescens. Rather uncommon in the pines, but more plentiful in the oaks on the lower borders of the pine region. A female, taken in company with a male, apparently her mate, is in no way appreciably different from the male in coloring, though the latter is in as fully adult plumage as any I have ever seen. The birds would breed here, I should think, early in May.

Dendrœca auduboni. Rare. Only two taken in the pines, both males, and no others seen. In this connection I may mention that at the point where I live, altitude about 4000 feet, and distant from the region I am treating of not more than ten miles, this species is referred to as follows in my note-book. "General arrival, March 30, 1885. Many males in full plumage, others moulting." And on my return from the pine region, the birds were very abundant all about my house and in the surrounding country.

Dendrœca graciæ. Rather rare. I secured seven individuals during my stay. (No. 2174, ♂, April 19; No. 2228, ♂,

1881, p. 251). A good series of either *aëdon* or *parkmani* will show an equal range of variation, as an examination has proved.

It may be added that Mr. Scott also sends one specimen (No. 1075, ♂, Oct. 8, 1884) that agrees strictly with the usual style of Western House Wren. — J. A .A.]

April, 22; No. 2229, ♂, April 22; No. 2274, ♂, April 23; No. 2275, ♂, April 23; and No. 2290, ♀, April 24). No. 2290, ♀, proved on dissection to have the eggs so far developed that I judge she would have laid at latest in two weeks.

This species seems to live well within the pine region, and to affect the pines and hemlocks alone. Its movements are slow, and much remind me of those of *Dendræca pinus*. I heard no song, though the peculiar Warbler *cheep* was very pronounced.

Cardellina rubrifrons. Though not observed during the first day, I obtained a male of this species in the oaks, far down on the northern side of the mountains and almost out of the pine region, on April 20. During the last two days of my stay I found the species very common, in small companies of from four to six individuals. They were very shy, and affected the thick pine trees, though now and then descending into the oaks among the pines. The males have a very clear whistling song, which is rather prolonged, and which betrays their presence, as they move about rather nervously in thick pines and hemlocks, where they would otherwise hardly attract attention. That the main part of the representatives were males, and that the arrival of females was not yet general, seems clear from the series before me, which consists of eleven of the former and one of the latter. The female (No. 2295, April 24) is in no way different in appearance from the highest colored males that I have, and there is very little individual variation apparent in the birds before me. I noticed nothing of the Redstart, or Flycatching Warbler, in their motions, but they reminded me of Titmice in their general movements. As far as observed they did not associate with other species of Warblers and small birds, except with *Setophaga picta*, as noted below.

Setophaga picta. Common in the higher regions of the oak belt and throughout the pine region. Mated and in some cases already nesting or about to lay. A series of ten were secured and many more seen. Found more plentifully near water. I can see no difference between the highest state of plumage in the sexes, but often the male, when carefully compared with the average female, presents an appreciably brighter coloring, which is not to be noticed, however, at the usual distance at which one sees them when alive. They are not nearly as shy as *Cardellina rubrifrons*, with which bird I noticed them in company twice.

Pyranga ludoviciana. An adult male (No. 2313) was taken at a high altitude on April 24, and another male and a female, seen the same day in a similar locality, completes my record. I think these were the first spring arrivals of the species.

Tachycineta thalassina. Not uncommon in small flocks at the very highest altitude and in the heaviest pine timber. They frequently alighted on the upper limbs of dead trees, and doubtless breed here in the deserted Woodpecker holes.

Vireo gilvus swainsoni. A single male in full song was taken just within the pine limit on April 21, and another was heard in the same locality on April 25.

Vireo huttoni stephensi. Took one in the scrub oaks just within the lower pine limit on April 21 (No. 2212, ♂), and a second on April 22 (No. 2233, ♂), in an oak at almost the upper limit of the evergreen oaks where the principal part of the forest is pine and about a thousand feet higher in altitude than the former representative. These were the only ones observed.

Melopiza lincolni. One taken at the lower pine limit (No. 2227, ♂, April 21), was the only one observed.

Peucæa ruficeps boucardi. Abundant just below the pine region, and not uncommon well within the pines, as far up at least as the limit of the evergreen oaks.

Junco cinereus [palliatus]. Common, particularly at the higher altitudes in the depths of the pine forests. Generally mated. A number of the females taken had laid part of the eggs of the first clutch, and all the females dissected would have laid in a short time. The male has an exceedingly pleasant song, not unlike that of *Pipilo maculatus megalonyx*, which bird he also emulates, perching on some prominent dead twig or limb, often at a very considerable height, whence his notes are heard perhaps most frequently just after sunrise. This was the only species of Junco observed. There are, among the series of thirty-five birds of this species secured during my stay, eight that show so marked a variation in regard to the extent of the reddish coloring and its intensity, both of the interscapular region and of the wings that I shall briefly notice them. The others* not specially mentioned are very typical individuals.

* [These have been examined by Mr. Ridgway and found to represent his new subspecies *palliatus*, described (since the receipt of this paper from Mr. Scott) on a later page of this number of 'The Auk.' Those here described in detail by Mr. Scott are var. *dorsalis*, variously intergrading with *palliatus*.—J. A. A.]

No 2189, ♂, April 19. General tint of the reddish coloring very dull and almost restricted to the interscapular region. The amount of reddish on the greater secondary coverts is much less than in average specimens. Only the faintest traces of this color on the secondaries. Irides bright lemon yellow. Upper mandible, black. Lower mandible blackish at base and tips, and obscure yellowish between these points.

No. 2287, ♂, April 23. The red of the interscapular region is very bright, but on the secondaries scarcely perceptible, and distinct only on two of the greater secondary coverts on each wing. Irides and bill normal.

No. 2196, ♂, April 19. Very similar to the last, except that the general tint of the red is very dull. Irides bright orange yellow. Bill normal.

No. 2247, ♀, April 22. The red is restricted to the interscapular region, there being no traces of this coloring any where on the wings. Otherwise typical *cinereus* with bright lemon yellow irides, upper mandible black and lower mandible clear yellow.

No. 2188, ♀, April 19. The red of the interscapular region dull in general tone. The only traces of red on the wings is to be faintly seen on two of the greater secondary coverts on each wing. Irides bright orange yellow. Bill normal.

No. 2190, ♀, April 19. General tint of red of the interscapular region very bright. The faintest traces of the same color on some of the greater secondary coverts. Irides lemon yellow. Bill normal.

No. 2289, ♂, April 23. The red, which is brighter in tint, absolutely confined to the interscapular region, there being no trace of this color anywhere on the wings. Irides lemon yellow. Upper mandible black; lower mandible dull yellow throughout, obscured by a blackish tinge.

No. 2285, ♀, April 23. Reddish of interscapular region rather dull. No red on the wings anywhere. A few reddish feathers, of the same shade as those of the interscapular region, mixed with the slate-colored feathers of the crown. Irides bright lemon yellow. Bill normal.

In *Junco cinereus caniceps*, taken in the spring near my house, I have not unfrequently seen the crown very perceptibly mixed with feathers of the peculiar reddish of the interscapular region.

Pipilo maculatus megalonyx. Common, even at the highest altitude, and becoming abundant in the mixed scrub oak and scattered pines. The males were in full song and the birds apparently mated.

Icterus parisorum. Several times during my stay I heard and saw this species in the oaks on the lower border of the pine region, and they were abundant about one mile away in the oaks where the yuccas are plenty.

Cyanocitta stelleri macrolopha. Rather common and generally mated throughout the pine region.

Aphelocoma sordida arizonæ. Abundant up to the lower edge of the pines, in the evergreen oak region. Breeding generally.

Contopus pertinax. Common in the pines, and also found a little below in the adjoining oaks. All of the specimens procured were males, and I do not think the females had arrived. While the actions of the bird in a great measure resemble those of *Contopus borealis*, in general appearance it is much more like *Contopus virens*, and the song, which I heard continually during my stay, is even more musical in tone than that of its last-named smaller ally. I secured nine males during my stay and saw many others. This was the only Flycatcher observed in the pine region, though not more than three miles away, and at an altitude probably two thousand feet lower, several others (*Tyrannus vociferans T. verticalis*, and *Myiarchus cinerascens*) were very common.

Phalænoptilus nuttalli. Rather common throughout the pine region, and abundant in the evergreen oak belt. I heard the first birds of this year singing near my house on the evening of February 27, and in a few days the birds were very common.

Selasphorus rufus. Though I observed four or five Hummingbirds, all of which I should refer to this species, well within the pines, the only one in reality identified—a male in full plumage — was at the lower pine limit on April 24.

Picus villosus harrisi. Not common. Only a few noted and a single male taken. Generally seen in pairs.

Melanerpes formicivorus bairdi. Rather common, and apparently mated or mating.

Asyndesmus torquatus. But two observed in the pines, though the birds were noticed commonly in the oak region during the ascent and on the return.

Colaptes mexicanus. Rather uncommon in pairs. Males in full song.

Buteo borealis calurus. The only Hawk observed, and not common. Abundant at lower altitudes in the mesquite region, where it begins to breed early in March.

Cathartes aura. One taken at a high altitude, in the pines. The only one seen.